

BASICS -

4-LOG VIRUS INACTIVATION THROUGH CHLORINE DISINFECTION

If a water system is required to provide 4-log virus inactivation through chlorine disinfection, the chlorination system must be maintained to provide continuous, reliable disinfection. At a minimum, a daily grab sample must be obtained and monitored for chlorine residual, temperature, pH, and peak flow rate of the disinfected water. Continuous monitoring equipment may also be used. The water system must monitor and maintain a chlorine residual concentration to ensure that 4-log virus inactivation is provided at all times. Inactivation through chlorination is a function of the chlorine concentration (C) and the time (T) the water is in contact with the chlorine before it reaches the first customer. CT is chlorine concentration (C) multiplied by the time (T) that the water is in contact with the chlorine.

Water systems must provide a system schematic indicating the location of chlorine injection, location of compliance monitoring, length and diameter of piping used for CT, and/or dimensions of CT tank. Water systems must monitor the chlorination system on a daily basis and must provide a monthly report to the Department by the 10th day of the following month. Upon receipt of the schematic, the Department will provide the water system with a customized spreadsheet to calculate the virus inactivation for its system.